THE APPLICABILITY OF FINANCIAL CONDITION ANALYSIS METHODS DEVELOPED FOR UNITED STATES LOCAL GOVERNMENTS TO TURKISH LOCAL GOVERNMENTS*

Doç. Dr. Fatma ULUCAN ÖZKUL**
Dr. Betül Şeyma ALKAN***

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ABSTRACT

With the Public Finance Management and Control Law No. 5018, it has increased the importance of transparency and accountability in the public sector, and the cash based accounting system has been replaced by the accrual based accounting system. The new regulation has also made obligatory the preparation of extensive financial statements to be used in decision-making and activity evaluation processes, and it has enabled the financial condition analysis. In this study, a detailed examination of the financial analysis methods such as ICMA's model, 10-Point Test and GASB reporting model developed especially for local governments in the United States (US) and to determine the most appropriate method for local governments in Turkey is aimed. It was determined that the GASB reporting model is applicable to metropolitan municipalities in Turkey due to the ease of obtaining all ratios required by the models from municipality' financial statements.

Keywords: Public sector, accrual based accounting, financial condition analysis, local governments
JEL Classifications: M40, M41, M48, H83

AMERİKA'DA YEREL YÖNETİMLER İÇİN GELİŞTİRİLEN MALİ DURUM ANALİZİ YÖNTEMLERİNİN TÜRKİYE'DEKİ YEREL YÖNETİMLERE UYGULANABİLİRLİĞİ

ÖZ

5018 sayılı Kamu Mali Yönetimi ve Kontrol kanunu ile birlikte, kamu sektöründe şeffaflık ve hesapverebilirlik kavramlarının önemi artmış ve nakit

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** Bahçeşehir Üniversitesi İktisadi, İdari ve Sosyal Bilimler Fakültesi Öğretim Üyesi, fatma.ozkul@eas.bau.edu.tr
*** Bahçeşehir Üniversitesi İktisadi, İdari ve Sosyal Bilimler Fakültesi, betulalkann@gmail.com

esaslı muhasebe sisteminden tahakkuk esaslı muhasebe sistemine geçilmiştir. Yeni sistem, karar verme ve faaliyetlerin değerlendirilmesi süreçlerinde kullanılmasına imkan sağlayacak kapsamlı mali tablolar üretilmesini zorunlu kılmış, ve mali durum analizine de olanak sağlamıştır. Bu çalışma kapsamında, Amerika'da özellikle yerel yönetimler için geliştirilen ICMA Modeli, 10-Puan Test Modeli ve GASB Raporlama modeli gibi mali analiz yöntemlerinin detaylı olarak incelenmesi ve ülkemiz yerel yönetimleri için en uygun yöntemin tespit edilmesi amaçlanmıştır. Tüm oranların mali tablo verilerinden temin edilmesi nedeniyle GASB raporlama modelinin Türkiye'de büyükşehir belediyeleri için uygulanabilir bir yöntem olduğu tespit edilmiştir.

Anahtar Kelimeler: Kamu sektörü, tahakkuk esaslı muhasebe, finansal durum analizi, yerel yönetimler

JEL Sınıflandırması: M40, M41, M48, H83

1. INTRODUCTION

The structure of public finance management in Turkey has completely changed with the Public Finance Management and Control Law No. 5018. The concepts of transparency and accountability have been regulated on the basis of the public finance system. With the new regulation, the cash based accounting has been replaced by accrual based accounting in the public sector. Accrual based accounting system has not only brought about a regulation that records all activities of public institutions, but also has required the preparation of financial statements that will enable their use in the decision-making processes as well as in the activity evaluation processes. However, the analysis of the financial statements is also necessary in order to complete the evaluation of the financial condition of public institutions. Even though detailed and extensive financial statements are prepared in private sector accounting, the decision makers do not use financial statement analysis methods in the evaluation and decision making processes.

Although financial statement analysis methods in the private sector have a deep rooted past and have had many studies conducted on them, financial statement studies for the public sector, and thus public institutions, have started considerably later. The most important reason for this is that the goals and objectives of public institutions are different than those of private sector companies. Therefore, studies on the analysis of financial statements of public institutions became possible after the transition to accrual based accounting systems. Today, many countries have transitioned to accrual based accounting systems in the public sector, and a part of these countries have ongoing studies related to this area.

This study consists of four chapters. Following the introduction, the second chapter of this study includes literature review regarding the method to used in the public sector. In the third chapter, the financial condition analysis methods developed especially for local governments in the United States are explained in detail, and the final part consist of conclusion and general assessments.

2. LITERATURE REVIEW

In national literature, the studies on financial statements analysis of the public sector have more so researched the applicability of methods developed for the private sector, rather than developing and using methods in accordance with the goals and objectives of public institutions. When international literature is examined, it is seen that it leads, especially the US, in studies regarding the development of analysis methods for the financial statements public institutions. The most important studies in this regard have been conducted on local governments. In addition to the methods used in the private sector such as horizontal analysis, vertical analysis and trend analysis, studies have been conducted proposing the use of different ratio analysis' due to the difference between public institutions and private sector companies. (Alkan 2016)

Tina (2013) investigated why there was no financial status analysis in the public sector, especially in local governments in her studies. The measure and evaluation of the financial condition of local government is, by its very nature, filled with obstacles. First of all, "financial condition" is a conceptual structure, it cannot be tangibly identified and cannot be precisely measured. Since it is very susceptible to context, being subjective is the best way to measure it. Secondly, the public and private sectors are based on vastly different aims, such as social and economic, leading to different reporting necessities and usability of information. Due to the environment where its activities take place, the evaluation of the financial condition of a public institution is very different from the private sector. Thirdly, local administrations are obligated to adopt a fund-accounting approach, which shapes the evaluation style of its history. Fourth, research literature in this field is void of empirical evidence. Studies are about what has been done and suggestions rather than results and proofs. Fifth, the cost of personnel with the abilities necessary to conduct financial condition analysis can be exorbitant. Last of all, it has been concluded that local administrations are incapable of full control over its income and expenses.

Financial condition for local administrations means evaluation of current invoice payments, annual budget balances, capability of fulfilling long-term financial liabilities and service requirements. Literature studies examine financial condition for local administrations in four different aspects; cash payment capability, budget balance, long-term debt payment capability, and sustainability of services (Honadle, Costa, & Cigler 2004, 139-176).

Due to its characteristics, public finance generally restricts the use of indicators to evaluate the financial condition of local administrations. It is not an all round audit that is done by the government. In the 1990's, the public finance community was tasked with the portrayal of the institutions accountability, transparency, budget balance and compliance with legislations. (Groves et al., 2003). In the public sector, fund-accounting is used, as it is preferential when trying to fulfill yearly requirements and giving efficient service. Private sector, on the other hand, uses cost accounting in order to maximize its profit and long-term payment ability. The private and public sectors have to implement different accounting and reporting procedures because of their different goals (Ruppel, 2010).

Rivenbark, Roenigk, and Allison (2009), in their study, strive to provide an approach to elected administrators regarding analysis and interpretation of financial condition of public institutions. In order to evaluate the financial condition of public institutions, the Financial Reporting model in GASB communique No. 34 was taken into consideration. The study started off with identifying to the administrators, the required indicators and criteria to be used to evaluate the financial condition of the institution. For example, current-ratios were used to analyze a local administration's state of liquidity. According to their approach, the fundamental executives of local administrations must have an understanding of the used financial reporting model. 3 criteria and 3 financial indicators have been selected in order to evaluate the effectiveness and efficiency in the flow of funds for the institutions activities. Contrary to previous models, a more systematic approach was adopted, with trend and comparison methods being used for a more reliable interpretation for evaluating the financial condition of local administrations. For the comparison method, selection of local administrations of similar populations and equal payment capabilities were kept in consideration. Focus was especially given to the GASB Reporting model's evaluation of the financial state of local administration. As a result of this study, it was concluded that elected administrators use of this model to manage the financial condition of the local administration would yield meaningful results.

Another study tested a model that was accepted as a financial reporting model and used as a financial condition indicator for public administration within the scope of the GASB Statement No. 34. In this study, 11 indicators were used to measure the institutions financial condition from 4 different aspects: cash solvency, long-term solvency, budget level and service level.

The results of this study showed that financial condition is a multilateral concept and every of the financial indicators are related to each other. The study of Wang, Dennis, and Tu (2007) indicates that short-term financial condition and long-term financial viability are interrelated. The continual deterioration of cash or budget solvencies may result in or from long-term financial difficulties. Likewise, the ability of a government to finance the services required of its citizens may be hindered if long-term solvency deteriorates. The development of a government-wide financial condition measure provides a foundation for financial condition analysis for U.S. state and local governments. The financial condition measure developed in this study can be used as a dependent variable in a model that examines what impacts financial condition. It can also serve as an independent variable in models that examine the impact of financial condition on dependent variables such as organizational capacity or achievements. With continual efforts to improve the measure and models, researchers may finally be ready to answer some critical questions in governmental finance such as: What factors affect financial condition? How do they affect financial condition? Why are some governments in better financial condition than others? How does financial condition affect an organization's ability to provide services? Finally, this study provides a benchmark of financial condition for state governments to; assess and compare their financial condition with that of others, and seek ways to improve their financial condition. This study shows that, while states appear to be strong in cash solvency, their solvency in other financial areas varies greatly. The majority of states in 2003 had a budget deficit. A large room still exists to improve financial condition in U.S. states. There are two limitations in this study. First, the data in this analysis are based on a single year of financial reports. The change of financial condition over time was not available at the time of this analysis. Longitudinal data collected over time may further validate the findings of this study and make it possible to analyze changes in financial condition and its causes. Second, GASB Statement No. 34 has been effective for only a short time; therefore, state practices in reporting government-wide financial information may differ. This may lead to differences and even errors in reporting financial figures. This limitation should be eliminated or improved over time as governments become more familiar with the requirements of GASB Statement No. 34.

According to James H. Svara (2001), an institutions's financial condition is similar to the human body. In the human body, the condition of a system is connected to the other systems. For example, a healthy digestive system is correlated to a healthy cardiovascular (heart) system. For this reason, it is compulsory for public officials to examine and link all financial aspects in order to understand the financial condition of a public institution. Contrary to this study, some literature works suggest focusing only on the institutions capability to make the payments on time. But this way, the strength of the institutions long-term financial condition is ignored (Svara 2001, 176–183).

In 2007, Wilson, Kattelus, and Reck used liquidity and current ratios in the analysis of local administrations's financial condition. It was deduced that the liquidity ratio provides a more interactive approach in evaluating an institutions ability to pay off its short-terms debts obligations and local administrations' ability to conserve current assets that increase its liquidity.

There are almost no studies on the effectiveness of different models found in literature. There is a lack of information on the understanding of all factors affecting financial condition. The approximate power of the most widely used indicators has not been identified. The correlation between different criteria has not been fully understood and varies from different perspectives. The reason why there is no consensus between researchers and implementers is because there is no standard set of indicators and criteria in literature to materialize all aspects or principles of evaluating the financial condition (Groves et al., 2003; Hendrick, 2004, Dennis and Tu, 2007).

The book, “Fiscal Health for Local Governments” by Honadle et al., took only the researchers on the subject into consideration, and was about comparative analysis of models of different authors. In its study, it used the “10-Point Test of Financial Condition” (Brown, 1993), “Fiscal Capacity Analysis” (Alter, McLaughlinn, & Melniker), and “Financial Trend Monitoring System” (Groves & Godsey, 1980) to evaluate the financial condition of a district in Minnesota. The authors provided qualitative evaluations on the advantages and restrictions of each approach, but provided no quantitative evaluation on model and indicator effectiveness. While Coe’s (2008) work, “Preventing Local Government Fiscal Crises”, did not include any analysis to evaluate model effectiveness, Kloha et al (2005), in their study, identified the methods used by public institutions to evaluate financial distress. Coe (2008) summarized the methods used by 9 US states to monitor local administrations.

As a result, the different approaches of researchers were evaluated, and it was established that in the literature so far, no experimental research had been conducted to determine the effectiveness of the approaches used in evaluating the financial condition of an institution.

In our country, financial analysis methods have not been developed for the purposes of public institutions, yet. The aim of study is, unused in Turkey, examining in detail of the financial condition analysis methods developed especially for local governments in the US and to determine method’s applicability for local governments in our country.

3. FINANCIAL CONDITION ANALYSIS METHODS DEVELOPED FOR UNITED STATES LOCAL GOVERNMENTS

Financial statement analysis techniques have been used for many years in the private sector in order to understand the financial conditions of companies. In time, many advanced statistical techniques were developed for the analysis, which was incapable of providing detailed information in the beginning, and today it became possible to often predict the future of companies. On the other hand, financial statements are quite a new area for the public sector. The main reason for this is the existence of basic differences between the public and private sector (Türkyener and Altıntaş 2012, 108).

Public institutions and organizations do not seek to maximize their profit. The goal of public institutions is to provide the most effective, efficient, and economic service using their resources. Moreover, even public organizations that are based on trade have functions other than profit increase, such as organizing the market. Because of this, applying techniques, which were developed for the analysis of private sector financial statements to the public sector as are, does not lead to a successful result, and because of the concept of public welfare, which is the primary goal of the public sector, different ratios have to be used according to different characteristics of each institution (Türkyener and Altıntaş 2012, 109).

Besides various national and international institutions and organizations that work on performance measurement or financial condition analysis in local administrations, many countries, particularly Anglo-Saxon countries such as US and Canada, have placed great importance to studies in this area and have made a great contribution. At present, many projects and methods are being applied and developed.

Since every state has a different constitution regarding local administrations in the US, the subject of local administrations has to be evaluated on a state basis. Local administration units that are common in all states are the County and municipalities. In the US, cities, towns and small towns carry out serious studies in order to improve their performance measurement systems (Bilge 2006, 138).

The International City Management Association (ICMA), some individuals and organizations such as Brown and Moody's, have developed some research and analysis techniques for the financial condition analysis of local administrations and have prepared reports on the financial condition of local administrations. In these reports, it was tried to analyze the financial sustainability, flexibility, and weak points of these local administrations. The great share of local municipalities in the public sector of developed countries and the existence of the means to measure the success of analyses that are applied to local administrations, increase the number of these studies day by day (Ersöz 2008, 82).

There are no comprehensive studies on financial analysis applications in local administrations in our country. In the Municipal Performance Measurement Project (BEPER) initiated by the Ministry of the Interior General Directorate of Local Administrations, various financial indicators have been determined and most recently, the data of 2005 was received from municipalities and analyses were tried to be performed on these. However, indicators and ratios that are in accordance with the new accounting system have not been put to practice yet.

3.1 ICMA's Model

The International City Management Association (ICMA) is the main organization that is accepted worldwide in financial condition analysis and performance measurement of local administrations. ICMA is an occupational organization, which was established in 1914 to improve accountability in local administrations, provide professional advice to local administrations, and help them make reforms. In 1924, the members of the ICMA declared that they will provide their services within the highest possible standards based on moral principles. Today, the ICMA represents approximately 7600 local administrations worldwide and has taken as goal perfection in local administrations by means of developing and supporting the notion of professional management in local administrations. In order to accomplish this goal, the ICMA develops new approaches in the area of management through information services and publications, and provides their dissemination.

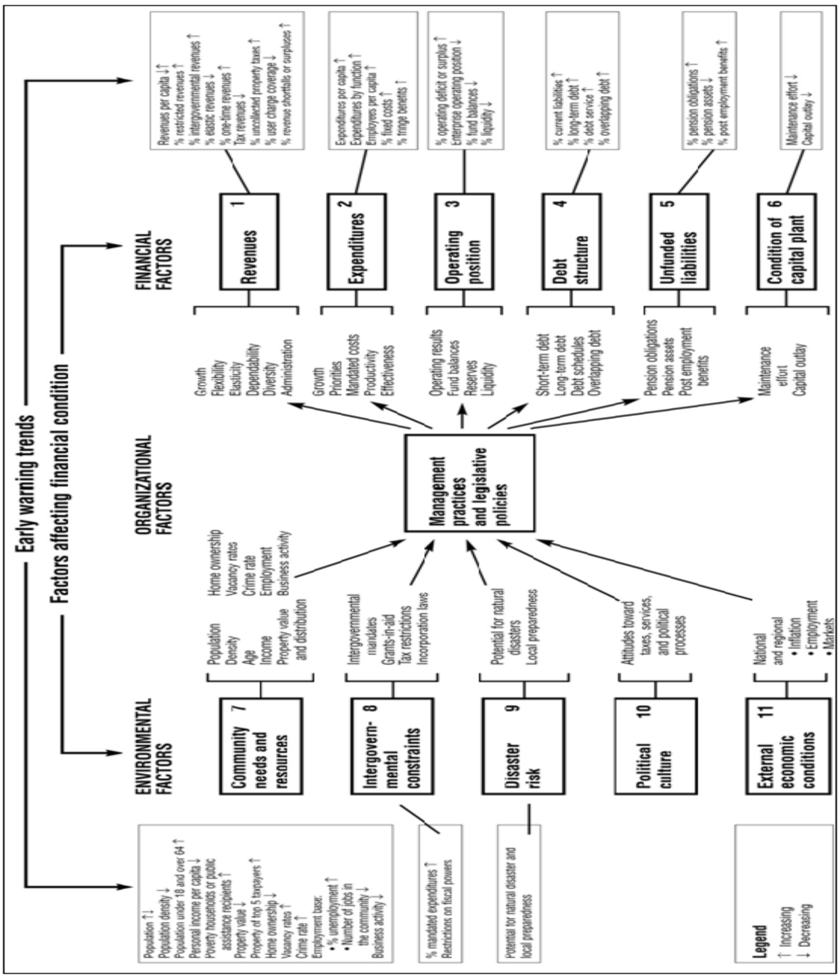
ICMA made significant contributions to the development of the subject of performance measurement in local administrations. The study made by Clarence E. Ridley and Herbert Simon in 1938 and entitled "Measuring Municipal Activities: a Survey of Suggested Criteria and Reporting Forms for Appraising Administration" is a leading study which investigates the methods of performance measurement in municipality services (Ridley and Simon, 1938).

While performance measurement activities in public institutions and studies on the reporting of such measurements were very low in number during the 1970's, the ICMA and the City Institute worked together during this period and produced works which provided practical techniques for data collection and analysis for relevant municipality administrations and provided an important basis for local administrations (Kopcynski and Lombardo 1999, 124).

During the 1990's, with further increase in the importance of performance measurement subject, ICMA professionalized the services it provided and carried into effect a unit called ICMA Center for Performance Measurement (CPM). The ICMA Center for Performance Measurement offers tools to be used with the purpose of sharing information on local administration programs, comparing the performance among authorized units, utilizing resources efficiently, and applying the best management techniques.

In addition, it performed studies in public institutions on special rate analysis methods for the analysis of public sector financial statements. One of the leading studies is the Financial Indicators for Local Governments analysis system that was developed by ICMA (International City Management Association). This analysis technique that was developed by ICMA aims to assess the financial condition of local administrations and offers an opportunity to observe changes that can take place in financial condition over time. The ICMA system, which offers an opportunity to make a General Economic Condition analysis, consists of 12 factors that are based on financial statement data and socioeconomic indicators, and 36 indicators which represent these factors. Some of these indicators are directly connected to the factors that determine the General Economic Condition, while the factors of political culture and life politics affect all indicators indirectly. For example, in societies where local administrations are important, dependency on central budget income is decreased. With this system it is possible to compare the financial condition of local administrations during different periods and thus make trend analysis, analyze income and expense structures, and compare the financial condition of different administrations. Because of this, with the ICMA system, it is possible to determine the problematic areas in administrations' General Economic Condition and produce policies within this context (Groves, Godsey and Shulman 1981, 5-19).

Table 1. ICMA Financial Condition Factors



Source: (Groves, Godsey and Shulman 2001, 10).

All financial condition factors are shown in Table 1. They are more fully described by the items listed within the brackets. Each factor is classified as an environmental, organizational, or financial factor. The chart arranges the factors as if they were inputs to and outputs from each other. This type of relationship is not the only one that exists. For example, many factors at times feed back into themselves and to other factors. In addition, the arrangement of the factors suggets a clear cause and affect relationship between the environmental and the financial factors, although this is not always true. The relationships shown here, however, are the primary ones anda re the focus for the system.

In short, the environmental factors representing the external influences on a city government are filtered though a set of organizational factors. The result is a series of financial factors which describe the internal financial structure of the government unit.

Table 2. ICMA Financial Indicators

	INDICATOR	**FORMULA**
1	Revenues per Capita	Net Oprating Revenues / Population
2	Restricted Revenues	Restricted Operating Revenues/ Net Operating Revenues
3	Elastic Tax Revenues	Elastic Operating Revenues / Net Operating Revenues
4	Intergovernmental Revenues	Inter-governmental Operating Revenues / Gross Operating Revenues
5	One-Time Revenues	One-Time Operating Revenues/Net Operating Revenues
6	Property Tax Revenues	Property Tax Revenues
7	Uncollected Property Tax Revenues	Uncollected Property Taxes / Accrual Property Taxes
8	User Charge Coverage	Revenues from Fees and User Charges / Expenditures for Related Services
9	Revenue Shortfalls	Revenue Shortfalls / Net Operating Revenues
10	Expenditures per Capita	Net Operating Expenditures / Population
11	Employees per Capita	Number of Municipal Employees / Population
12	Fixed Costs	Fixed Costs / Net Operating Expenditures
13	Fringe Benefits	Fringe Benefit Expenditures / Salaries and Wages

14	Operating Deficits	General Fund Operating Deficit/ Net Operating Revenues
15	Enterprise Losses	Enterprise Profits or Losses
16	General Fund Balances	Unrestricted Fund Balance of General Fund / Net Operating Revenues
17	Liquidity Ratio	Cash and Short-Term Investments/ Current Liabilities
18	Current Liabilities Ratio	Current Liabilities / Net Operating Revenues
19	Long-Term Debt Ratio	Net Direct Long-Term Debt / Assessed Valuation
20	Debt Service	Net Direct Debt Service / Net Operating Revenues
21	Overlapping Dbet	Overlapping Long-Term Debt / Assessed Valuation
22	Unfunded Pension Liability Ratio	Unfunded Pension Liability / Assessed Valuation
23	Pension Assets	Pension Plan Assets / Pension Benefits Paid
24	Accumulated Employee Leave Liability	Total Days of Unused Right to Leave / Number of Municipal Employees
25	Maintenance Effort Quantity of Assets	Expenditures of Repair and Maintenance of General Fixed Assets / Amount of Assets
26	Level of Capital Outlay	Capital Outlays from Operating Funds / Net Operating Expenditures
27	Depreciation Ratio	Depreciation Expense / Cost of Depreciable Fixed Assets
28	Population	Population
29	Median Age	Median Age Population
30	Personal Income per Capita	Personel Income / Population
31	Poverty Households or Public Assistance Recipients	Povert or Public Assistance Households / Total Number of Households
32	Property Value	Change in Property Value / Property Value Prior Year
33	Residential Development	Market Value of Residential Property / Market Value of Total Property
34	Vacancy Rates	Vacancy Rates
35	Unemployment Base	-Rate of Unemployment -Number of Community Jobs

36	Economic Activity	-Retail Sales -Number of Community Businesses -Gross Business Receipts -Valuation of Business Property

Source: (Groves, Godsey and Shulman 2001, 12).

The ICMA model provides a comprehensive approach to assess the financial condition of a local administration and its ability to manage the systematic and non-systematic risks in the repayment of its liabilities. The disadvantage of this approach is the presence of too many indicators that are used for the analysis of financial condition and both financial and economic factors, which makes the model applicable only to metropolitan municipalities (Rivenbark, Roenigk, and Allison 2009, 5).

ICMA system can be used as a tool to assess the financial condition of local administrations. This is because; financial statements produced as a result of accrual based accounting provide the data necessary to calculate the indicators proposed by the method. However, since it is a comprehensive method, it is not possible to obtain some indicators with financial statement data in Turkey. Part of the information can be obtained through the statistical institute or local administration resources. ICMA is a model which makes it applicable only to the metropolitan municipalities, and which contains socio-economic indicators besides financial indicators. However, some indicator ratios which represent socio-economic factors are not possible to provide the financial data produced in Turkey. Obtaining information on the financial condition of a local municipality is possible only after all indicators are obtained, thus the success of administrators' operations and the financial condition of the local administration is assessed and predictions can be made. While financial data of the ICMA method provide information on the financial condition of the institution, they can be also used comparatively. In this way, more efficient information can be obtained on the financial condition and performance of administrations. Comparative application can be made by comparing the indicators of the local administration to those from the previous year. In this way, it is possible to have an idea about the progress in the financial condition of the administration. In addition to this, it is believed that indicators of local administrations can be also used for comparison in other local administrations. In this way, it is possible to assess the financial condition of the local administration compared to other local administrations. However, attention should be paid to choose the right local administrations for the comparison. However, it will need to be careful in choosing the right of local governments for the comparison. Having similar socioeconomic characteristics of is important for comparison. In Turkey, metropolitan municipalities have different demographic features and structure. For example, it is not correct to compare the indicators of Istanbul Metropolitan Municipality with the indicators of a small city municipality. Therefore, comparing municipalities with similar socio-economic characteristics and population is an appropriate approach.

3.2 Brown's 10-Point Test

In addition to this analysis developed by ICMA, institutions such as the CICA (Canadian Institute of Chartered Accountants) and the GASB (Government Accounting Standards Board) also contributed to financial statement and condition analyses with the reports and guides that they have published. Besides such institutional studies, some academicians also contributed to the development of the literature on the financial statements analysis of public institutions, with individual or joint studies and especially with the analysis methods that they proposed. One of the best examples that can be given to this is the "The 10-Point Test of Financial Condition" developed by Ken W. Brown for the determination of the financial condition of small scale local administrations.

In this study, which was carried out to reveal the financial condition of municipalities with populations below 100,000, ten key ratios were determined and by applying these to 750 small scale city data, common measures concerning financial conditions were tried to be provided.

In the system developed by Brown, 10 financial ratios which represented 4 financial factors were used. Unlike other analyses, Brown's system aimed to grade municipalities by comparing a multitude of small local administrations. Therefore, the system consists of three stages. In the first stage, financial ratios are computed for each municipality and in the second stage these ratios are compared. As a result of the comparisons, municipalities which have financial ratios that rank within the best first quarter are given +2 points, those in the best second quarter are given +1 points, those in the best third quarter are given 0 points, and those in the worst quarter are given -1 points. After grading similarly all financial ratios of the municipalities, they have the chance to receive points between +20 and -10. In the last stage, the received points are examined and the financial condition of the municipality compared to other municipalities is determined.

As part of this study, there are two goals, which are meeting the need for tools for the rapid and effective representation of the financial structure of municipalities and providing the comparability of published data with each other. The determined 10 key ratios were established on four major financial operations of cities including income, expenditures, operating condition, and liability structure. Brown separated the data on the 10 ratios which he obtained from 750 municipalities in 4 groups and ranked them from the best to the worst. According to the model developed by Brown, when someone wanted to analyze the municipality, they would compute the 10 ratios using the financial statements of the municipality and according to the results, they would assess themselves based on the grading system prepared by Brown. According to the grading system, municipalities with 10 points or above were evaluated as “the best”, those with points between 5 and 9 were evaluated as “good”, those with points between 1 and 4 were evaluated as “average”, those with points between 0 and -4were evaluated as “poor”, and those with points below -5 were evaluated as “the worst” (Brown, 1993).

Table 3. Brown – Ten Key Ratios of Financial Condition

Factors	**Indicator**	**Formula**
Revenues	Total Revenues	Total Revenues / Population
Revenues	Ratio of Revenues from own Sources	Total General Fund Revenues from Own Sources / Total General Fund Revenues
Revenues	Ratio of Revenues from other Funds	General Fund Sources from Other Funds / Total General Fund Sources

Expenditures	Operating Expenditure Ratio	Operating Expenditures / Total Expenditures
Operating Position	Operating Ratio	Total Revenues / Total Expenditures
Liquidity	Unreserved Fund Ratio	Unreserved General Fund Balance / Total General Fund Revenues
Liquidity	Liquidity Ratio	Total General Fund Cash and Investments / Total General Fund Liabilities
Debt Structure	Liability Ratio	Total General Fund Liabilities / Total General Fund Revenues
Debt Structure	Lond-Term Debt per Capita	Total Long-Term Debt / Population
Debt Structure	Debt Service Ratio	Debt Service / Total Revenues

Source: (Brown 1993).

The method proposed by Brown can be used as an important tool in terms of presenting the financial condition of municipalities compared to other similar municipalities. In addition to this, it also allows to track the status of municipalities over the years and follow the comparative progress in their financial condition. However, the method was used comparatively particularly for small scale municipalities with populations below 100,000. For this reason, it is believed that it can be used in the analysis of financial statements of municipalities that have similar socio-economic infrastructure.

Municipalities selected within this context need to have similar income, economic operations and population structure. Using data of metropolitan municipalities in Turkey, in this method, would not be meaningful. However, it can be used in comparison to county municipalities. In addition, since the standard figures that were used for the evaluation of ratios in Brown’s study were obtained from municipalities of certain population in the US, these have to be adapted to our country.

3.3 GASB's Reporting Model

GASB, which is located in the US, is a basic unit that supports measurement of financial condition and performance in the public sector. While there are three different accounting standard preparation councils in the US, the duty of the GASB, which was established in 1984, is to prepare financial reporting standards for 87 thousand local and 50 state administrations. Since its establishment by the Financial Accounting Foundation in 1984, GASB works on the application of performance measurement in administrations. The mission of GASB is the creation and development of accounting and financial reporting systems in state and local administrations. These standards are important with respect to taking economic, social, and political decisions based on information and fulfilling the duty of accountability to the public. [1]

In 1994, the GASB published a SEA report (Service Efforts and Accomplishments Reporting) which strongly supported local administrations. This report is a kind of standard performance report application which allows a local administration to compare its performance over time within itself or with other local administrations. As explained in the GASB, Concepts Statement No.1, performance measurement is often expressed as Service Efforts and Accomplishments Reporting (SEA).

There are several types of performance indicators that are used in performance measurement systems. These are, Input Indicators, Output/Labor Indicators, Result/Effectiveness Indicators, Efficiency (and Cost Effectiveness) Indicators, and Productivity Indicators. GASB suggests that additional conditions should be also considered instead of dealing only with these indicators. GASB stated that 80% of the US cities and town governments are in a better condition owing to making use of performance measurement. The measures led concerned institutions to focus on results and targets to be achieved, and acquire more information on factors that affected their performance. The use of measures led to improvement in the quality of their services and

[1] (http://www.seagov.org/initiatives/local_gov.shtml)

increased their awareness towards consumers. In addition, they increased their communication with shareholders, including legislators, managers, and fiscal officers (National Center for Public Productivity, 1997).

Regarding the utilization of the new financial reporting model prepared by GASB Statement No.34, a study was carried out in 2007 by Xiaohu Wang, Lynda Dennis, and Yuan Sen Tu from Central Florida University, aimed at measuring the financial condition of public institutions. Developing a financial condition analysis model, the validity and reliability of the model was tested using financial data obtained from states in the US. Therefore, it is a model which was designed to address how the financial condition of a public institution will be measured, providing information to institutions that are associated with public sector accounting, citizens, those who were employed through election, and also managers. The financial reporting model, which covers all governments and states in the US, is one of the first studies created by the GASB Statement No.34, aimed at measuring the financial condition of public institutions. As part of this statement, public institution financial information is prepared based on a full accrual based accounting system and by focusing on economic resource measurement. Such representations, allow determining the long term effects of daily operations and decisions as well as making long term economic predictions for official authorities (Wang, Dennis and Tu 2007, 1).

There are 11 financial ratios in this study that aims to analyze financial statements of local administrations, is carried out based on accrual based accounting system, and proposes ratios that can be obtained by using the data of the two basic financial statements Statement of Financial Position and Statement of Financial Performance. These ratios are used to measure the financial condition of local administrations based of 4 different perspectives, including cash solvency, budget solvency, long-term solvency, and service-level solvency. The cash solvency is related to liquidity and effective cash management. In addition, it is also explained by the ability of the institution to create sufficient resources to pay short term liabilities. Budget solvency is defined as the ability of the institution to form sufficient income to finance its current or demanded services. Long term solvency is defined as the ability to pay long term liabilities on future resources. Finally, service solvency is defined as the ability to provide and sustain services in line with citizens' needs and demands (Honadle, Costa, and Cigler, 2004, 139–176).

There are three ratios used to measure the cash solvency. Owing to these ratios, the short term solvency, which is an important indicator of financial condition, can be determined. If municipalities cannot pay their short term liabilities, their debts may increase. As a result of this, interest expenditures may also increase. In addition they can also lose their credibility. Personnel payments are one of the most important payment items of municipalities. Generally, when they fall into cash shortages, they prefer not to pay personnel wages. This leads to various social problems. Similarly, delaying the payments for purchased goods and services can push providers to add a late payment risk to the price of their provided services and goods. This can lead to increase in service costs of municipalities in the long term. Financial ratios that are proposed for the measurement of the cash solvency are the Cash Ratio, Quick Ratio, and the Current Ratio.

To measure the financial success of the budget, two ratios were used. The balance between income and expenditures is one of the main indicators for the healthy operation of the financial system. Expenditures made by municipalities should not be more than their income. Otherwise, it may not be possible to sustain services in the long term. Interest expenditures made to pay liabilities lead to decline in resources which have to be used for public service. Therefore, budget deficits in municipalities are not a good sign in terms of financial condition. Operating Ratio and Budget Surplus (Deficit) per Capita are ratios used to measure budget solvency.

Three ratios were used to measure the long term solvency. In order to make large investments, municipalities can receive long term liabilities from financial markets or the treasury. However, if the long term solvency of municipalities is not sufficient, they may not find the resources needed to realize the necessary investments and ensure the continuity of their services. Moreover, even if they find resources, since the risk ratios will be high, they may have to pay high interests. This in turn leads to inefficient utilization of resources. Financial ratios that show the long term solvency are the Net Assets Ratio, Long Term Liabilities Ratio, and Long Term Liabilities per Capita Ratio.

Finally, three ratios were used to measure the solvency of services. In case short term expenditures are high, the quality and quantity of current services may decrease in the long term and if the received taxes and other incomes are high, later income increase may not be achieved. This may lead to public reaction (Wang, Dennis and Tu, 2007).

Table 4. Financial Condition Measurement Ratios

	INDICATOR	FORMULA	DIMENSION
1	The Cash Ratio	Cash+Cash Equivalents+Investments / Current Liabilities	CASH SOLVENCY
2	The Quick Ratio	Cash+Cash Equivalents+Investments+Receivables / Current Liabilities	
3	The Current Ratio	Current Assets/ Current Liabilities	
4	The Operating Ratio	Total Revenues / Total Expenses	BUDGET SOLVENCY
5	Surplus (Deficit) per Capita	Total surpluses (deficits) / Population	
6	Net Asset Ratio	Restricted and Unrestricted net assets / Total assets	LONG-TERM SOLVENCY
7	Long-Term Liability Ratio	Long-term (non-current) Liabilities / Total Assets	
8	Long-Term Liability per Capita	Long-term (non-current) Liabilities / Population	
9	Tax per Capita	Total Taxes / Population	SERVICE SOLVENCY
10	Revenue per Capita	Total Revenues / Population	
11	Expenses per Capita	Total Revenues / Population	

Source: (Wang, Dennis and Tu, 2007).

These ratios have emerged as the developed forms of various ratios used in certain studies carried out previously. As a result of investigating the existence of a dependency of the ratios to the social and economic condition of municipalities in the study, it was concluded that they were dependent and that they were affected by economic-social conditions. Therefore, it is also possible to apply these ratios in Turkey.

4. CONCLUSION

In Turkey, with Law No. 5018 “Public Finance Management and Control Law” as of 2006, all institutions under general management have transitioned from the cash-based accounting system to the accrual based accounting system. With accrual based accounting, all the institution’s activities are recorded, their assets and liabilities are shown in balance-sheets, and important documents like cash flow statements and operational result tables can be prepared. In the new accounting system, while budget implementation results are recorded on a cash-basis, operational results are recorded on an accrual-basis.

Local governments that are part of the public sector need to have accurate and reliable financial reporting, as they use up an important portion of the public funding; this requires the extensive reporting of the institutions’ financial condition and operating results. This is why comprehensive financial statements began to be created with the new accounting system, enabling the analysis the institutions’ financial condition. It is important that analyses and information suitable for speculation is created, as the municipalities within the scope of this study, being institutions that create and expend funds, are quite important for both international organizations as well as decision-making circles. Methods to analyze the financial condition of municipalities was examined in detail for Turkey, ultimately aiming to form the foundation of an accounting system that would provide additional information for financial analysis to information users that would be comprehensible, comparable and suited to their needs.

Use of analysis methods applied in the private sector for the public sector will not yield meaningful results due to the difference in general goals and objectives. The US pioneers the studies on the development of analysis methods to be used on financial statements for public sector institutions, with the most important studies being conducted on local administrations. When all developed methods to evaluate the financial condition of local administrations are examined, the GASB reporting model is an applicable method for metropolitan municipalities in Turkey. All ratios included in models is obtained from municiplality's financial statements. The ratios used in the GASB reporting model shed light for information users on the municipality's financial condition by measuring cash solvency, budget solvency, long-term solvency, and services-level solvency. By using useful accounting data, administrators can consider factors such as service solvency, the institution's liquidity condition and how expenditure will affect the institution in the short and long terms. Ultimately, instead of viewing accounting in public institutions as a legal obligation, it should be considered as a function of management and try to benefit from the accounting data and related analyses.

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